

CONTENTS

JANUARY

VOLUME 69, NUMBER 1

1989

CONTENTS

General Papers

V. S. Lutovinov and O. E. Molodykh

1 The influence of electron-electron interaction on the temperature dependence of the magnon damping in disordered ferromagnetic metals

T. Tsuzuki

7 On the dynamics of a two-state system coupled to a bosonic bath

M. Lagos

11 Non-Condon contributions to the diffusion of hydrogen in solid solutions

Superconductors and Superconductivity

J. Chadwick, G. R. Court and D. H. Jones

19 Magnetic measurements on high- T_c superconductors

P. Vašek, L. Smrčka, J. Dominec, M. Pešek, O. Smrčková and D. Sýkorová

23 Gamma irradiation of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ ceramics

P. A. P. Lindberg, Z.-X. Shen, J. Hwang, C. K. Shih, I. Lindau, W. E. Spicer, D. B. Mitzi and A. Kapitulnik

27 Electronic structure of the $\text{La}_{1+x}\text{Ba}_{2-x}\text{Cu}_3\text{O}_{7+\delta}$ system studied by photoelectron spectroscopy

General Papers (contd)

K. Suzuki, J. Watanabe, A. Takeuchi, Y. Uehara and S. Ushioda

35 Two-mode radiation from light-emitting tunnel junctions with surface roughness

T. Tomov, H. Engelmann, I. Dézsi and U. Gonser

41 Investigation of the ferroelectric phase transition in $\text{LiNbO}_3:\text{Fe}$ by Mössbauer spectroscopy

M. Nikl

45 Energy transfer in $\text{PbCl}_2:\text{Sn}^{2+}$ single crystals at low temperatures

C. Paracchini and V. Dallacasa

49 Impact ionization current in semi-insulating GaAs

W. Ungier

53 Electron-hole exchange interaction in a biexciton molecule

S. K. Misra and S. Jerzak

57 Mn^{2+} EPR study of phase transitions in dicalcium barium propionate $\text{Ca}_2\text{Ba}(\text{C}_2\text{H}_5\text{COO})_6$

K. Fujiwara, N. Tsukada, T. Nakayama and T. Nishino

63 Linear polarization effects on photoluminescence properties of GaAs/AlAs quantum well heterostructures

F. Rodríguez, M. Moreno, J. M. Dance and A. Tressaud

67 Temperature dependence of crystal-field peaks of RbMnF_3 and KMnF_3

K. Beck, U. Bogner and M. Maier 73 Heat-pulse propagation in polymers detected by selectively laser-excited dye molecules

K. M. Hong 79 Scattering of electrons by a rough surface

C. Meyer, J. P. Gavigan, G. Czjzek and H.-J. Bornemann 83 A study of crystal fields in $\text{Yb}_2\text{Fe}_{14}\text{B}$ by ^{174}Yb Mössbauer spectroscopy

J. W. Krewer and R. Feder 87 Non-spherical potentials in relativistic multiple scattering theory

T. Kaneyoshi 91 On the magnetic behavior of amorphous spinel ferrites

W. Kleemann and F. J. Schäfer 95 Single-to-multiaxis antiferromagnetic phase transition in $\alpha\text{-MnS}$?

P. Saalfrank, P. Otto and J. Ladik 99 *Ab initio* Hartree-Fock band structures of different lead surfaces using effective potentials

M. Bleher and W. Wonneberger 103 Self consistent collective mode response and pinning frequencies in charge density wave systems

S. N. Kumar 107 Effective medium treatment of multicomponent metal-dielectric systems

S. P. McAlister, M. Olivier and T. Siegrist 113 Magnetic and electrical properties of UCu_2Ge_2

K. Solomon Harshavardhan and M. S. Hegde 117 On photooxidation of Ge in obliquely deposited Ge and $\text{Ge}_{25}X_{75}$ ($X = \text{S, Se, Te}$) thin films

i Instructions for Authors on the Preparation of Camera-Ready Manuscripts for *Solid State Communications*

A cumulative Author Index appears in Numbers 4, 8 and 12 of each Volume

JANUARY

VOLUME 69, NUMBER 2

1989

CONTENTS

General Papers

B. Dorner, I. T. Belash,
E. L. Bokhenkov, E. G. Ponyatovsky,
V. E. Antonov and L. N. Pronina

A. J. Rostocki and R. Wiśniewski

Wang Xue-mei, Lu Li, Duan Hong-min,
B. J. Jin and Zhang Dian-lin

M. R. Ibarra, C. Marquina,
P. A. Algarabel, J. I. Arnaudas and
A. del Moral

A. Anastassiadou, E. Liarokapis and
E. Anastassakis

K. Yoshino, Y. Manda, K. Sawada,
M. Onoda and R. Sugimoto

W. Blau, R. Dusde and H. Petersen

121 Inelastic incoherent neutron scattering spectra from fcc $\text{NiH}_{1.05}$, hcp $\text{CrH}_{1.0}$ and hcp $\text{MoH}_{1.2}$ at 15K

125 An effect of pressure forced transition from ferro- to nonferromagnetic state in amorphous alloy $\text{Fe}_{60}\text{Mn}_{20}\text{B}_{20}$

127 Peierls transition study of $\text{K}_{0.3}\text{MoO}_3$ by the measurements of the pressure dependence of resistivity and thermopower

131 A. C. initial magnetic susceptibility and spin reorientation transitions in $(\text{Er}_x\text{R}_{1-x})_2\text{Fe}_{14}\text{B}$ magnets ($\text{R} = \text{Nd and Dy}$)

137 A Raman study of $\text{Zn}_{1-x}\text{Mn}_x\text{S}$ mixed crystals

143 Anomalous dependences of luminescence of poly(3-alkylthiophene) on temperature and alkyl chain length

147 Photoyield measurements of the boron K-edge fine structure of amorphous $\text{Fe}_{80}\text{B}_{20}$ alloys

A. Tempel and A. Zehe 151 Strain field and angular misalignment in pseudomorphic epitaxial systems with Si (1 1 1) substrates

Luo Ningsheng, Xu Wenlan and S. C. Shen 155 Embedded atom method for the phonon frequencies of copper in off-symmetry directions

A. Uddin, H. Nakata and E. Otsuka 159 High density hot excitons in stressed pure silicon

D. Wolverson and R. T. Phillips 163 Time-resolved photoluminescence in amorphous P₂Se

P. Monachesi, P. Giannozzi and M. Acquarone 167 Relationship between electronic conduction states and indirect magnetic exchange

H. Schweitzer and G. Czycholl 171 Second order U-perturbation approach to the Anderson lattice model in high dimensions

Superconductors and Superconductivity

Sui-Geng Jin, Lin-Gmei Liu,
Zheng-Zhong Zhu and Yun-Lian Huang

W. Herkert, H.-W. Neumueller and
M. Wilhelm

Jing Zhao, K.-H. Dahmen, H. O. Marcy,
L. M. Tonge, B. W. Wessels, T. J. Marks and
C. R. Kannewurf

A. Winiarski, A. Winiarska and
A. Chełkowski

Y. Tanaka and M. Tsukada

179 Water reaction of superconducting YBa₂Cu₃O₇ at 0°C and its protection from water corrosion at 100°C

183 Preparation and magnetic properties of high T_c (110 K) Bi - Sr - Ca - Cu-oxide superconductors

187 Low pressure organometallic chemical vapor deposition of high- T_c superconducting YBa₂Cu₃O_{7- δ} films

191 X-ray diffraction and resistivity studies of REBa₂Cu₃O_{6+ δ} (RE — Y or rare earth metal)

195 Many-band theory of superconductivity in the Kronig - Penny model based on rigorous Green's function

A cumulative Author Index appears in Numbers 4, 8 and 12 of each Volume

JANUARY

VOLUME 69, NUMBER 3

1989

CONTENTS**General Papers**

Yang Zhen and Cheng Yu-fen

B. P. Zakharchenya, P. S. Kop'ev,
D. N. Mirlin, D. G. Polakov, I. I. Reshina,
V. F. Sapega and A. A. Sirenko

Superconductors and Superconductivity

M. Krantz, H. J. Rosen, R. M. Macfarlane,
W. Y. Lee, V. Y. Lee and R. Savoy

A. K. Rajarajan, K. V. Gopalakrishnan,
R. Vijayaraghavan and L. C. Gupta

C. Y. Fong, M. S. Wartak and R. N. Shelton

Z. Hiroi, M. Takano and Y. Bando

201 Neutron diffraction intensity enhancement of α -Li₂O, single crystal under DC voltage at elevated temperatures

203 Optical alignment of 2D-electron momenta in multiple quantum well structures

209 Raman microprobe study of a superconducting (T_c = 120K) Tl₂Ca₂Ba₂Cu₃O₁₀ thin film

213 Nuclear magnetic resonance studies of thallium in a superconducting phase of the Tl - Ba - Ca - Cu - O system

219 The effect of structural difference on critical temperature in La_{2-x}Ba_xCuO₄ and YBa₂Cu₃O_{7-x}

223 Oxygen ordering model describing the two-phase microstructures in YBa₂Cu₃O_{6+ δ}

D. M. Eagles

229 Concentrations and mobilities of holes and electrons in a crystal of a 90K oxide superconductor from analysis of *ab*-plane resistivity and Hall dataP. Prieto, G. Zorn, R. R. Arons,
S. Thierfeldt, M. E. Gomez, B. Kabius,
W. Sybertz and K. Urban

235 Formation of highly textured Bi-Sr-Ca-Cu-O superconducting thick films by a rapid melting process

Y. H. Huo and J. Yan

241 The response of unbiased bridge of YBaCuO superconducting bulk to microwave radiation

H. Feil

245 Intervalence charge transfer transitions in superconductors and related compounds

G. Linker, X. X. Xi, O. Meyer, Q. Li and
J. Geerk249 Control of growth direction of epitaxial YBaCuO thin films on SrTiO₃-substrates

R. Fazio, G. Falci and G. Giaquinta

255 Phase dependent renormalization in granular superconductors

L. B. Kiss

259 A (high T_c) superconductor sample arrangement of bistable nature

C. J. Howard, R. J. Nelmes and C. Vettier

261 A neutron powder diffraction study of the effect of pressure on the crystal structure of La₂CuO₄**General Papers (cont)**

R. Jakubas

267 A new ferroelectric compound: (CH₃NH₃)₅Bi₂Br₁₁

S. Palchoudhuri and G. K. Bichile

271 Dielectric and electrical conductivity studies in β -PbF₂J. S. Baijal, D. Kothari, S. Phanjoubam and
C. Prakash277 Hyperfine interaction and cation distribution of the system
Ni_{1+x}Sn_xFe_{2-2x}O₄

J. T. Lopez Navarrete and G. Zerbi

281 Charge localisation in doped segmented polyacetylene

G. Haley, J. G. Mullen and J. M. Honig

285 First order change in hyperfine interaction at the Verwey transition in magnetite

H. Braeter, N. M. Plakida and W. Windsch

289 On the pressure dependence of the phase transition temperature in hydrogen-bonded ferroelectrics

J. S. Lee, N. Miura and Y. Iwasa

293 Magnetic field effect on the Stokes shift in *p*-type modulation-doped quantum wells

A. Kabasi and D. Chattopadhyay

297 Alloy scattering and electronic transport in InGaAs/InP single quantum wells

K. N. Shrivastava

301 The phonon-fracton crossover from the spin-lattice relaxation of Fe³⁺ in frozen solutions of metmyoglobin azide

C. Pennetta

305 A total-energy study of proton diffusion in crystalline silicon

J. Leng, Y. Qian, P. Chen and A. Madhukar

311 Disorder activated optical modes and the phonon dispersion of Al_xGa_{1-x}As lattice vibration

F. Cannata, L. Ferrari and G. Russo

317 Correlation energy in double polarons from factorization of centre of mass and relative motion

N. C. Constantinou and M. G. Cottam

321 Theory of Raman scattering from plasmon-polaritons in a superlattice of alternating layered electron gases

S. K. Misra and S. Jerzak

325 Mn²⁺ EPR study of phase transitions in dicalcium strontium propionate Ca₂Sr(C₂H₅COO)₆

M. Seidl and M. Maier 333 Relaxation of the $a^1\Delta_g$ state of solid γ and β natural O₂ and ¹⁸O₂

K. Mazuruk, M. Benzaquen and D. Walsh 337 Coulomb gap and screening in impurity bands

i Corrigenda

ii Errata

A cumulative Author Index appears in Numbers 4, 8 and 12 of each Volume

JANUARY

VOLUME 69, NUMBER 4

1989

CONTENTS

General Papers

R. Plumier and M. Sougi 341 Magnetic ordering in the normal spinel Cu_{0.5}In_{0.5}Cr₂Se₄

U. Caldiño G., C. de la Cruz, G. Muñoz H. and J. Rubio O. 347 Ce³⁺→Eu²⁺ energy transfer in CaF₂

Superconductors and Superconductivity

R. Decca, E. Osquigil, F. de la Cruz, C. D'Ovidio, M. T. Malachevski and D. Esparza 355 Non linear temperature dependence of the resistivity of La-Sr-Cu-O: effects of Sr content

P. Echegut, F. Gervais, K. Dembinsky, M. Gervais and P. Odier 359 Polar phonon modes in YBa₂Cu₃O_{6.4} by infrared reflectivity spectroscopy

W. Markowitsch, W. Lang, N. S. Sariciftci and G. Leising 363 Plasma reflection of polycrystalline YBa₂Cu₃O_{7-x}

S. D. Murphy, K. Renouard, R. Crittenden and S. M. Bhagat 367 AC susceptibility of sintered high T_c superconductors — Bean's model and shielding current

N. Yu Boldyrev, V. M. Burlakov, A. I. Golovashkin, Yu. A. Khadzhiiskii, K. V. Kraiskaya, S. I. Krasnosvobodtsev, I. V. Lerner, A. G. Mit'ko, E. V. Pechen and G. N. Zhizhin 373 Spectroscopy of energy gap in ceramics and oriented films of YBa₂Cu₃O₇ in the regime of negative light fluxes

Chan-Soo Jee, A. Kebede, D. Nichols, J. E. Crow, T. Mihalisin, G. H. Myer, I. Perez, R. E. Salomon and P. Schlottmann 379 Depression of superconductivity, heavy fermion behavior and valence fluctuations in Y_{1-x}Pr_xBa₂Cu₃O₇

N. I. Agladze, M. N. Popova and E. P. Hlybov 385 Optical spectra of high T_c superconductor Er-Ba-Cu-O in the region of $^4I_{15/2} - ^4I_{13/2}$ transition in Er³⁺ ion

S. L. Bud'ko, A. G. Gapotchenko and E. S. Itskevich 387 Effect of pressure on critical fields and T_c of La_{1.8}Sr_{0.2}CuO₄ and YBa₂Cu₃O₇ high- T_c ceramics

General Papers (contd)

V. I. Yukalov 393 Mössbauer-effect probability for heterogeneous matters

G. Eliasson, P. Hawrylak, X. Zhu, X. Xia and J. J. Quinn 397 Bulk and surface collective excitations of electron hole plasma in semiconductor superlattices with zero valence band offset

U. Mizutani, M. Hasegawa and S. Ohashi 403 Enhanced itinerant paramagnetism in C14-type Laves Ti(Cu_{1-x}Al_x)₂ (0.45 ≤ x ≤ 0.70) alloys

V. K. Jain and V. S. Yadav 407 Estimation of T_i for Co²⁺ ions from temperature variation of the EPR linewidths for Mn²⁺ in Na₂Co (SO₄)₂ · 4H₂O single crystals

U. V. Desnica 411 Factors influencing site selection of dopants in binary semiconductors

K. Kanoda, T. Takahashi, K. Kikuchi, 415 Anomalous spin dynamics of conduction electrons in the organic conductor, $[\text{dimethyl(ethylenedithio)diselenadithia-fulvalene}]_2\text{AuBr}_2[(\text{DMET})_2\text{AuBr}_2]$

K. Saito, Y. Honda, I. Ikemoto, K. Kobayashi, K. Murata and H. Anzai

E. Pehlke and W. Schattke 419 Calculation of photoemission spectra for the layered crystal 1T-titanium diselenide

H. Yamamoto, K. Seki, T. Enoki and H. Inokuchi 425 Ultraviolet photoemission spectroscopy of ternary graphite intercalation compound C_8KH_x

Y. Nakaoka and T. Higashimura 431 Energy competition of self-trapped excitons in alkali halides

M. Saint Jean, C. Rigaux, J. Blinowski, G. Furdin, E. McRae and J. F. Mareche 435 Frequency dependence of the *c*-axis conductivity in C_8AsF_5

V. Contini, C. Presilla and F. Sacchetti 439 On the temperature dependence of the LVV Auger spectrum in vanadium

A. A. S. Sangachin and J. Shanker 443 Analysis of compression for cuprous, silver and thallous halides

i Author Index Nos 1-4

A cumulative Author Index appears in Numbers 4, 8 and 12 of each Volume

FEBRUARY

VOLUME 69, NUMBER 5

1989

CONTENTS

General Papers

I. Kokanović, B. Leontić and J. Lukatela 447 Evidence for electron-electron interaction and localization effects in the magnetic susceptibility of hydrogen-doped Zr-Ni metallic glass

D. Scalbert, J. Cernogora, A. Mauger, C. Benoit à la Guillaume and A. Mycielski 453 Resonant Raman scattering on low energy excited states of Fe^{++} in $\text{Cd}_{1-x}\text{Fe}_x\text{Se}$

A. Borghesi, M. Geddo, G. Guizzetti, S. Pizzini, D. Narducci, A. Sandrinelli and G. Zachmann 457 Infrared microcharacterization of grain boundaries in polycrystalline silicon

G. A. R. Lima, M. R. Sardela Jr., A. Fazzio and R. Mota 461 The Cr^{2+} luminescence in GaAs as a function of hydrostatic pressure

E. K. Hlil, M. H. Tuilier, R. Riedinger, B. Lloret, B. Chevalier, B. Buffat and J. Etourneau 465 Cerium valence and physical properties of $\text{Ce}(\text{Rh}_{1-x}\text{M}_x)_2\text{Si}_2$ solid solutions with $\text{M} = \text{Co, Ru}$

D. F. Mariani, J. Vignolo and M. Jiménez de Castro 471 Thermal annealing of the effect of plastic deformation on the thermoluminescence of KBr

D. Malterre 475 Influence of density of conduction states on the electronic configuration of cerium

M. I. Alonso, M. Cardona and G. Kanellis 479 Space groups and lattice dynamics of Ge/Si superlattices grown in the [001] direction

H. Ebert, B. Drittler, R. Zeller and G. Schütz 485 A first-principles description for the magnetic X-ray dichroism of Pt in Fe

Superconductors and Superconductivity

Y. Tanaka and M. Tsukada 491 Superconductivity of Kronig – Penny superlattice model

A. G. Gukasov, V. P. Plakhty, O. P. Smirnov and I. A. Zobkalo 497 Search for magnetic fluctuations in superconducting $\text{La}_{1.83}\text{Sr}_{0.17}\text{CuO}_4$ by polarized neutron scattering

L. Pierre, D. Morin, J. Schneck, J. C. Tolédano, J. Primot, C. Daguet, F. Glas, J. Etrillard and H. Savary 499 Formation conditions of the (2223) phase in lead-substituted superconducting ceramics $\text{Bi} - \text{Sr} - \text{Ca} - \text{Cu} - \text{O}$

A. M. Kini, M. A. Beno, D. Son, H. H. Wang, K. D. Carlson, L. C. Porter, U. Welp, B. A. Vogt, J. M. Williams, D. Jung, M. Evain, M.-H. Whangbo, D. L. Overmyer and J. E. Schirber 503 $(\text{MDT-TTF})_2\text{AuI}_2$: an ambient pressure organic superconductor ($T_c = 4.5$ K) based on an unsymmetrical electron donor

O. Eibl 509 Examination of the crystal structure of high- T_c $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ by TEM

O. Laborde, J. L. Tholence, P. Monceau, H. Noel, P. Gougeon, J. Padiou, J. C. Levet and M. Potel 513 Magnetic and resistive determinations of the upper critical field of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ single crystals

W. Q. Shen, H. S. Du, J. H. Li, M. L. Dong, X. X. Bai, J. X. Liu, J. L. Shen, G. G. Zheng, J. Q. Zheng and W. Y. Guan 517 DPAC study of quadrupole interaction in $\text{Y}_1\text{Ba}_2(\text{Cu}_{0.9}\text{Ag}_{0.1})_3\text{O}_{7-\delta}$

Xia Sike and Ma Ruzhang 523 Structural variation of $\text{YBa}_2\text{Cu}_{2.88}\text{Fe}_{0.12}\text{O}_{7-x}$ oxide superconductor at low temperature

S. Mazumdar 527 Dopant induced valence transition and fermion pairing in a model of superconducting copper oxides

P. Fischer, J. Karpinski, E. Kaldis, E. Jilek and S. Rusiecki 531 High pressure preparation and neutron-diffraction study of the high T_c superconductor $\text{YBa}_2\text{Cu}_4\text{O}_{8\pm x}$

Y. Horie and S. Mase 535 Discontinuity in sound velocity and high T_c superconductivity in $\text{YBa}_2\text{Cu}_3\text{O}_7$

B. A. Richert and R. E. Allen 539 LaO/BaO/SrO oxygen (*p*)-metal (*d*) excitons as the mechanism of high-temperature superconductivity

Han Guchang, Wang Yugui, Wang Jinsong, Wang Nanlin and Jiao Xinping 543 Magnetic properties of $(\text{Bi} + \text{Pb}) - \text{Sr} - \text{Ca} - \text{Cu} - \text{O}$ superconductors

H. Niki, T. Suzuki, S. Tomiyoshi, H. Hentona, M. Omori, T. Kajitani, T. Kamiyama and R. Igei 547 Proton NMR in hydrogen-doped superconductor $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}\text{H}_{0.2}$

A. D. Wieck, E. Batke, U. Merkt, D. Walker and A. Gold 553 Evidence for two electronic gaps in polycrystalline $\text{Y}_1\text{Ba}_2\text{Cu}_3\text{O}_7$ -type compounds

General Papers (contd)

E. M. Haines 561 Self-consistent moments and short-range magnetic order in Ni

A. I. Ekimov, Al. L. Efros, M. G. Ivanov, A. A. Onushchenko and S. K. Shumilov 565 Donor-like exciton in zero-dimension semiconductor structures

E. Czarnecka-Such, A. Rodzik, A. Kisiel, G. Dalba and P. Fornasini 569 Reflectivity spectra analysis of the $\text{Sb}_{40}\text{S}_{60}$ and $\text{Sb}_{28}\text{S}_{72}$ non-crystalline thin films

W. C. de Oliveira and E. V. Anda 575 The effect of non-orthogonality and screening on the impurity band of doped semiconductors

H. Gollisch and R. Feder 579 Electronic structure and magnetism of Fe_xPt near the Curie temperature

J. M. Lopez and M. Silbert 585 Structural diffusion model calculations of the pair distribution function of aluminium: from the liquid to the amorphous phase

A cumulative Author Index appears in Numbers 4, 8 and 12 of each Volume

FEBRUARY

VOLUME 69, NUMBER 6

1989

CONTENTS

General Papers

S. S. Lin, Y. S. Huang, C. R. Huang and M. C. Lee 589 Raman investigation of RuS₂

Zhihua Yan, Wenku Wang, Jingfeng Li and Yuming Wang 595 Formation of amorphous Fe₅₀Si₅₀ alloy by diffusion reaction

Superconductors and Superconductivity

R. Retoux, C. Michel, M. Hervieu, N. Nguyen and B. Raveau 599 Bi₂Sr₄Fe₃O_{12-δ}, a bismuth iron oxide isostructural with the "2223" superconductor

V. I. Ilyichev, M. A. Savchenko and A. V. Stefanovich 605 High-temperature superconductivity of ceramic systems

Yu. N. Shvachko, D. Z. Khusainov, A. A. Romanyukha and V. V. Ustinov 611 Hysteresis of microwave absorption of hard superconductors in magnetic field

N. J. Wu, K. Xie, L. H. Zhao, Y. Zhou, D. W. Hu, Z. Y. Ran and Z. X. Zhao 615 Photoemission studies of high- T_c superconductor Ba₂Y_{1-x}Pr_xCu₃O_{7+δ}

M. P. Fontana, C. Paracchini, C. Paris De Renzi, P. Podini, F. Licci and F. C. Matacotta 621 Temperature dependence of resistivity in YBa₂Cu₃O_{7-δ}: study of the effect of oxygen content and of paraconductivity

J. E. Gordon, M. L. Tan, R. A. Fisher and N. E. Phillips 625 Specific heat data of high- T_c superconductors: lattice and electronic contributions

W. R. Flavell and R. G. Egddell 631 Observation of electronic Raman scattering in Y₂BaCuO₈

General Papers (contd)

J. González Hernández and R. Tsu 637 Determination of film-substrate microadhesion for crystalline silicon films by Raman scattering

Ching Zhou and Chang-de Gong 641 Surface excitations in anisotropic magnetic superlattices—surface polaritons and spin waves

B. Stepien, C. Jedrzejek and R. E. Allen 647 Dangling-bond resonances and intrinsic Schottky barriers

S. V. Nistor 651 Localisation of the neutral impurity atom in the $M^0(1)$ ($M = Ga, In, Tl$) laser active center

H.-M. Kagaya, H. Kotoku and T. Soma 655 Lattice vibrational contribution to equation of state for tetrahedral compounds

A. A. Kosyachkov and V. T. Cherepin 659 Energy effects in secondary ion emission of implanted and simultaneously sputtered argon

E. L. Ivchenko, Yu. B. Lyanda-Geller and G. E. Pikus 663 Circular magnetophotocurrent and spin splitting of band states in optically-inactive crystals

H. Dandache 667 On the interrelationships between Gruneisen's parameter, shock and isothermal equation of state

R. Girlanda, G. Martino, G. Mondio, P. Perillo and R. Giorgi 671 XPS and Auger spectra of *N*-methyl 2,3-diphenyl 5-methyl indole ($C_{22}H_{19}N$)

S. Yarlagadda and G. F. Giuliani 677 Quasiparticle energy and interaction in a normal electron liquid

Rui-qin Zhang 681 Origin and nature of gap states in α -Si : H alloys

D. Mihalache, D. Mazilu and Ruo-Peng Wang 685 Transverse magnetic polarized nonlinear surface-guided waves in semi-infinite superlattices: the transfer matrix technique

G. K. Wertheim and D. N. E. Buchanan 689 Crystal field splitting of core levels in β -Sn

K. T. Ramakrishna Reddy and P. Jayarama Reddy 693 Photoconductive response of laser evaporated $CuGaSe_2$ films

T. Kaneyoshi 695 A new disordered phase and its physical contents of a mixed Ising system with a random crystal field

M. Kroeker and U. Merkt 699 Conductivity of inversion layers on InSb in parallel magnetic fields

A. M. Jayannavar 703 Effect of an electric field on the mobility edge

J. J. del Val, J. Colmenero and C. Lacabanne 707 Compensation laws and phase segregation in polymer blends

A. Bouhelal and J. P. Albert 713 A configuration interaction study of multiplets in ZnS:Ni

A cumulative Author Index appears in Numbers 4, 8 and 12 of each Volume

FEBRUARY

VOLUME 69, NUMBER 7

1989

CONTENTS

General Papers

B. Williamson, M. Gilmartin, G. Lifante, F. Jaque, B. Henderson and F. Cusso 717 Luminescence of $(F_2^+)_H$ centres in $NaCl:O_2$ under high intensity F-band excitation

D. Moses 721 Charge quantum yield and transient transport properties of anthracene and amorphous selenium

G. Bernier, J. Beerens, J. De Boeck, K. Deneffe, C. van Hoof and G. Borghs 727 Photoconductivity and photoluminescence of GaAs grown on Si by molecular beam epitaxy

N. Malinowski, H. Schaber, T. Bergmann and T. P. Martin 733 Electronic shell structure in Na - O clusters

Superconductors and Superconductivity

J. Darriet, A. Le Lirzin, E. Marquestaut, B. Lepine, B. Chevalier and J. Etourneau 739 New series of compounds $Bi_2ALaCuO_{6.5}$ (A = Ca, Sr or Ba) isostructural to the superconducting phase $Bi_2Sr_2CuO_6$

V. N. Denisov, B. N. Mavrin,
 V. B. Podobedov, V. N. Bagratashvily,
 V. N. Burimov, V. B. Ginodman,
 L. N. Zherikhina, A. N. Zherikhin,
 M. M. Rodin, A. P. Sviridov, S. I. Tsypina
 and A. M. Tskhovrebov

V. A. Moskalenko, M. E. Palistrant,
 V. M. Vackaluk and I. V. Padure

743 Diagnostics of the high temperature superconducting $\text{YBa}_2\text{Cu}_3\text{O}_x$ films by Raman spectroscopy

747 The influence of oxygen disorder on high- T_c superconductivity in two-band model

General Papers (contd)

L. Artus, J. Pascual,
 A. Goulet and J. Camassel

D. G. Seiler, M. R. Loloee, S. A. Milazzo,
 A. J. Durkin and C. L. Littler

M. I. Auslender and N. G. Bebenin

H. L. Park, H. K. Kim, C. H. Chung,
 S. K. Chang and Jiang-Tsu Yu

A. Seidel, C. A. Majid and G. Linker

M. Sommer, K. Mui and F. W. Smith

J. T. T. Kumaran and C. Bansal

N. Ohno, S. Hashimoto and M. Itoh

Yu V. Korostelin, P. V. Shapkin,
 L. G. Suslina, A. G. Arshkin, L. S. Markov
 and D. L. Fedorov

Z. Kąkol, R. N. Pribble and J. M. Honig

753 Polarized infrared spectra of AgGaSe_2

757 New laser-based magneto-optical studies of $\text{Hg}_{1-x}\text{Cd}_x\text{Te}$ alloys

761 On the band structure and anisotropy of transport properties of ferromagnetic semiconductors CdCr_2Se_4 and HgCr_2Se_4

765 Valence state of europium in CaS:Eu phosphor

769 Formation mechanisms of amorphous clusters in Mn^+ implanted thin Al films

775 Thermodynamic analysis of the chemical vapor deposition of diamond films

779 A Mössbauer effect investigation of Fe hyperfine fields in $\text{Fe}_{3-x}\text{Mn}_x\text{Si}$ alloys

785 Observation of longitudinal excitons in uniaxially-strained RbI and KI crystals

789 Localized exciton luminescence in $\text{Zn}_x\text{Cd}_{1-x}\text{Se}$ solid solutions

793 Magnetocrystalline anisotropy of $\text{Fe}_{3(1-\delta)}\text{O}_4$, $0 \leq \delta \leq 0.01$

A cumulative Author Index appears in Numbers 4, 8 and 12 of each Volume

FEBRUARY

VOLUME 69, NUMBER 8

1989

CONTENTS

General Papers

W. Figueiredo and J. A. Plascak

R. Krishnan and H. Lassri

J. C. van den Heuvel, R. C. van Oort and
 M. J. Geerts

Y. Takagaki, K. Gamo, S. Namba,
 S. Takaoka, K. Murase, S. Ishida,
 K. Ishibashi and Y. Aoyagi

797 Critical properties of two-component spin-1/2 ferromagnetic superlattices

803 High field magnetization studies in amorphous Co-Er-B alloys

807 Diffusion length measurements of thin amorphous silicon layers

811 Nonlocal voltage fluctuations in a quasi ballistic electron waveguide

N. Frangis, S. Kuypers, C. Manolikas, J. Van Landuyt and S. Amelinckx 817 Continuous series of one-dimensional structures in the compounds $\text{Bi}_{2+x}\text{Se}_3$, $\text{Bi}_{2+x}\text{Te}_3$, $\text{Sb}_{2+x}\text{Te}_3$, $(\text{Bi}_2\text{Te}_3)_n\text{GeTe}$ and $(\text{Sb}_2\text{Te}_3)_n\text{GeTe}$

F. W. Wise and C. L. Tang 821 Subpicosecond luminescence study of hot-electron relaxation in GaAs quantum wells

Superconductors and Superconductivity

X. Z. Wang, K. Donnelly, T. Bakas, J. M. D. Coey, I. Rosenman and C. Simon 829 Production and characterisation of single crystal, superconducting $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_x$

X.-D. Xiang, M. Chung, J. W. Brill, S. Hoen, P. Pinsukanjana and A. Zettl 833 Elastic properties of single crystal $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$

T. A. Costi 837 Pairing correlations and susceptibilities of the one-dimensional Hubbard model

D. Schweitzer, S. Gärtner, H. Grimm, E. Gogu and H. J. Keller 843 Superconductivity in polycrystalline pressed samples of organic metals

A. K. Rajagopal, S. D. Mahanti and W. Jin 847 Neutron scattering as a probe of superconducting correlations in the new high T_c superconductors

M. Sera, Y. Ando, S. Kondoh, K. Fukuda, M. Sato, I. Watanabe, S. Nakashima and K. Kumagai 851 Transport and magnetic anomalies at the structural transition to the new low temperature phase in $\text{La}_{2-x}\text{Ba}_x\text{CuO}_4$

C. Thomsen, M. Cardona, R. Liu, Hj. Mattausch, W. König, F. García-Alvarado, B. Suárez, E. Morán and M. Alario-Franco 857 $\text{Pb}_2\text{Sr}_2\text{R}_{1-x}\text{Ca}_x\text{Cu}_3\text{O}_{8+\delta}$: Raman and far infrared investigation

Liu Hongbao, Cao Liezhao, Zhou Ling, Mao Zhiqiang, Li Xiaoxian, Yu Zhidong, Xue Bai, Mao Xianglei, Zhou Guien, Run Yaozhong, Chen Zhaojia and Zhang Yuheng 867 Zero resistance at 132K in the multiphase system of $\text{Bi}_{1.9-x}\text{Pb}_x\text{Sb}_{0.1}\text{Sr}_2\text{Ca}_2\text{Cu}_3\text{O}_y$ with $x=0.3, 0.4$

i Author Index Nos 1-8

A cumulative Author Index appears in Numbers 4, 8 and 12 of each Volume

MARCH

VOLUME 69, NUMBER 9

1989

CONTENTS

General Papers

T. Ito, A. Taguchi and T. Ohno 869 Band structures of Ga-Ge-As-Ge and In-Ge-As-Ge superlattices

Young-Sea Huang and V. Murgai 873 Photoemission study of Cu-Yb thin films

V. V. Aleksandrov, T. S. Velichkina, V. I. Voronkova, L. V. Koltsova, I. A. Yakovlev and V. K. Yanovskii 877 Elastic coefficients of KTiOPO_4 , RbTiOPO_4 , TiTiOPO_4 crystals determined from Mandelstamm-Brillouin light scattering spectra

S. Magazu', G. Maisano, D. Majolino, F. Mallamace, F. Aliotta and N. Micali 883 Evidence of large cluster aggregates in potassium oleate microemulsion by elastic light scattering measurements

M. Rinker, H.-E. Swoboda, F. A. Majumder and C. Klingshirn 887 Diffusive and thermal properties of the electron-hole plasma in CdS and CdSe

U. Frank, A. Brandl and W. Prettl	891 Far-infrared radiation controlled chaos in <i>n</i> -GaAs
U. Schneider and B. Schröder	895 A semiquantitative model for the creation kinetics of metastable defects in <i>a</i> -Si:H by keV-electron irradiation
E. Friess, H. Brugger, K. Eberl, G. Krötz and G. Abstreiter	899 Confined optical modes in short period (110) Si/Ge superlattices

Superconductors and Superconductivity

F. Chibane, N. Bonnel de Longchamp, R. Martin, J. Perrière, G. Hauchecorne, F. Kerhervé and J. P. Maneval	907 Optical pulse detection by BiSrCaCuO granular films
H. D. Jostarndt, M. Galffy, A. Freimuth and D. Wohlleben	911 Unstable high temperature superconductivity and martensitic effects in YBaCuO
B. H. Brandow	915 Valence fluctuations with finite U: a mechanism for high-temperature superconductivity
I. T. Belash, A. D. Bronnikov, O. V. Zharikov and A. V. Pal'nikchenko	921 Superconductivity of graphite intercalation compound with lithium C ₂ Li
D. S. McLachlan	925 Morphology dependence of the resistivity and Meissner curves in two-phase superconductors

General Papers (contd)

T. Ishihara, J. Takahashi and T. Goto	933 Exciton state in two-dimensional perovskite semiconductor (C ₁₀ H ₂₁ NH ₃) ₂ PbI ₄
V. M. Shatalov and O. F. Panchenko	937 Effect of electron band structure on energy distribution of secondaries in silicon
A. W. Sheikh	941 Specific heat of NM-TM spin glasses
Zhang Yu-Xin, Du Mao-Lu and Li Yong-Tai	945 A theoretical approach of pressure dependence of zero-field splitting of Cr ³⁺ ion in ammonium aluminum alum

A cumulative Author Index appears in Numbers 4, 8 and 12 of each Volume

MARCH

VOLUME 69, NUMBER 10

1989

CONTENTS

General Papers

M. Raghu, S. V. Subramanyam and S. Chatterjee	i Editorial—Congratulations to Manuel Cardona
V. Fiorentini and A. Baldereschi	949 Pressure induced incommensurate to commensurate transition in K ₃ Cu ₈ S ₆
T. Hayashi and M. Watanabe	953 Interpretation of double acceptor spectra in Ge
C. Dufour, A. Bruson, B. George, G. Marchal, Ph. Mangin, C. Vettier, J. J. Rhyne and R. Erwin	959 Surface evanescent layer for an exciton polariton of PbI ₂ , estimated from the analysis of reflection spectra
J. Holm and K. Schönhammer	963 Polarized neutron study of Fe/Si multilayers
	969 Generalized slave – boson treatment of double occupancy of the <i>f</i> -orbital in the single impurity Anderson model

Y. M. Kim, G. Mihály and G. Grüner

975 Onset of the charge-density wave conduction at low temperatures in $K_{0.3}MoO_3$ **Superconductors and Superconductivity**

Zhou Xianyi, Liu Zhiguo, Zhu Yuping, Chen Guanghui, Chen Yong, Zhang Qirui and Guan Weiyan

981 Experimental verification of superconducting phase separation model in metallic glass $Zr_{78}Co_{22}$

J. E. Hirsch and S. Tang

987 Hole superconductivity in oxides

T. Onogi, T. Ichiguchi and T. Aida

991 Power-law dissipative behavior in high- T_c superconductor

W. Urland and F. Tietz

995 Dependence of T_c on hole concentration in $Bi_2Sr_{3-x}Ca_xCu_2O_{8+\delta}$ superconductors

M. Avignon and K. H. Bennemann

999 On the role of holes in the p-d anti-bonding band of CuO_2 planes for high- T_c -superconductivity**General Papers (contd)**

E. Gratz, E. Bauer, H. Nowotny, A. T. Burkov and M. V. Vedernikov

1007 Temperature dependence of the electrical resistivity of $REFe_2$ compounds

A cumulative Author Index appears in Numbers 4, 8 and 12 of each Volume

MARCH

VOLUME 69, NUMBER 11

1989

CONTENTS

General Papers

Zhao Zhibo, Xia Sike, Ma Ruzhang, Ping Jueyun, Miao Baihe and Pan Shuming

1011 The orientation anomaly in EDPs of the $Nd_{1+x}Fe_4B_4$ compound

D. Chauveau, C. Guillot, B. Villette, J. Lecante, M. C. Desjonquères, D. Sébilleau, D. Spanjaard and G. Tréglia

1015 Photoelectron diffraction study of the unreconstructed and the hydrogen reconstructed W(110) surfaces

C. Hirlimann, J.-F. Morhange and A. Chevy

1019 Excitonic resonant second harmonic in GaSe

A. Jezierski

1023 Density of states in $Ni_{80}B_{20(1-x)}P_{20x}$ amorphous alloys

M. Ribault and J. Joffrin

1031 Magnetoresistance effects in single crystal La_2CuO_{4-y}

A. Testa, W. Czaja, A. Quattropani and P. Schwendimann

1035 Screening effects in highly concentrated bound excitons in semiconductors

Songhua Chen and D. C. Ailion

1041 ^{35}Cl NQR spin-lattice relaxation study and phason gap determination in the incommensurate system Rb_2ZnCl_4

H. J. M. Swagten, F. A. Arnouts, A. Twardowski, W. J. M. de Jonge and A. Mycielski

1047 Magnetic specific heat of the diluted magnetic semiconductor $Hg_{1-x}Fe_xSe$

E. P. Skipetrov

1053 Metal-insulator transition induced by electron irradiation in $n-Pb_{1-x}Sn_xSe(x = 0.25)$ alloy

Ji-Wei Wu

1057 Binding energies of Wannier excitons in semiconductor quantum wells: numerical integration of the in-plane radial equation

Superconductors and Superconductivity

C. E. Hamrin, Jr., W. D. Arnett,
R. J. De Angelis, X. X. Ding and
W. D. Ehmann

Su Zhen-peng, Zhao Yong, Sun Shi-fang,
Chen Zu-yao, Chen Xian-hui and
Zhang Qi-rui

X. Granados, M. Carrera, J. Fontcuberta,
M. Vallet and J. M. González-Calbet

J. W. Chen and C. F. Chen

B. Domengès, M. Hervieu and B. Raveau

J. Darriet, C. J. P. Soethout, B. Chevalier
and J. Etourneau

L. Forro, M. Raki, J. Y. Henry and
C. Ayache

R. K. Nesbet

1063 Starting materials and superconductor stoichiometry

1067 Effects of Ag doping on the critical current density of
 $\text{YBa}_2\text{Cu}_3\text{O}_{7-y}$

1073 On the effects of helium absorption on the superconducting
onset of $\text{YBa}_2\text{Cu}_3\text{O}_{7-y}$

1079 Superconductivity in $(\text{Y}_{1-x}\text{M}_x)\text{Ba}_2\text{Cu}_3\text{O}_{7-\delta}$ ($\text{M} = \text{Cd}$ and Zn)
systems

1085 The 50K - superconductor $\text{TiBa}_2\text{CaCu}_2\text{O}_7$: HREM study

1093 Superconducting phases in the series $\text{Bi}_2\text{Sr}_{2-x}\text{La}_x\text{CuO}_{6+\delta}$
($0 < x < 1$)

1097 Hall effect and thermoelectric power of an $\text{YBa}_2\text{Cu}_3\text{O}_{6.8}$ single
crystal

1103 Spin-flip pairing in CuO_2 superconductors

General Papers (contd)

K. K. Tewari, S. D. Pandey and P. Chand

A. Gordon

M. Kucera, J. Bok and K. Nitsch

1109 Identification of Suzuki-phase in $\text{CsCl}:\text{Eu}^{2+}$, Mn^{2+} crystals

1113 Conductivity by ionic defects in hydrogen-bonded chains

1117 Faraday rotation and MCD in Ce doped YIG

A cumulative Author Index appears in Numbers 4, 8 and 12 of each Volume

MARCH

VOLUME 69, NUMBER 12

1989

CONTENTS

General Papers

K. A. Mäder, A. Baldereschi and H. von Känel 1123 Band structure and instability of $\text{Ge}_{1-x}\text{Sn}_x$ alloys

H.-P. Werner, J. U. von Schütz, H. C. Wolf, 1127 Spin-Peierls transition in (2,5-dichloro-N,N'-dicyanoquinone-
R. K. Kremer, M. Gehrke, A. Aumüller,
P. Erk and S. Hünig diimine)₂N(CH₃)₄

M.-H. Tsai, J. D. Dow, R. V. Kasowski,
A. Wall and A. Franciosi

1131 Explanation of anomalous Curie constants of $\text{Cd}_{1-x}\text{Mn}_x\text{Te}$
alloys

P. Baumgart, S. Blumenröder, A. Erle,
B. Hillebrands, G. Güntherodt and H. Schmidt

1135 Sound velocities of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ single crystals measured by
Brillouin spectroscopy

T. W. Steiner, A. G. Steele, S. Charbonneau,
M. L. W. Thewalt, E. S. Koteles and B. Elman

1139 Time-resolved studies of biexcitons in GaAs

Superconductors and Superconductivity

Wang Ke-qin, Chen Zhao-jia, Xia Jian-sheng, 1145 Two transitions in single crystal $\text{GdBa}_2\text{Cu}_3\text{O}_{7-y}$ near T_c
Chen Zuyao and Zhang Qirui

V. A. Gasparov, R. Huguenin, D. Pavuna and 1147 Radio frequency penetration depth in HTSC ceramic samples
J. van der Maas

Y. Yamaguchi, S. Waki and M. Tokumoto 1153 Magnetic properties of tetragonal $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$: susceptibility with ferromagnetic Weiss-constant

M. Pasternak and R. D. Taylor 1157 Quenching of magnetic fluctuations around ^{119}Sn impurities in superconducting $\text{GdBa}_2(\text{Cu}_{0.99}\text{Sn}_{0.01})_3\text{O}_7$

M. Saint-Paul, J. L. Tholence, H. Noël, J. C. Levet, M. Potel and P. Gougeon 1161 Ultrasound study on $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ and $\text{GdBa}_2\text{Cu}_3\text{O}_{7-\delta}$ single crystals

R. B. Tripathi, S. Singh, S. M. Khullar, B. S. Khurana, R. K. Kotnala, K. Jain, B. V. Reddi, R. C. Goel, K. C. Nagpal, S. Singhal and B. K. Das 1165 Non-superconducting phase stability in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ compound

T. Osada and N. Miura 1169 Edge states of anisotropic two-dimensional Bloch electron system under magnetic fields

K. N. Shrivastava 1173 Theory of phonon-induced charge transfer and hybridization in high temperature superconductivity

S. Kagoshima, Y. Nogami, M. Hasumi, H. Anzai, M. Tokumoto, G. Saito and N. Mori 1177 A change of the superstructure and an associated rise of the superconducting critical temperature in the organic superconductor β -(BEDT-FFT)₂I₃

General Papers (contd)

A. Cantarero, C. Trallero-Giner and M. Cardona 1183 Excitons in one-phonon resonant Raman scattering: GaP

Y. Luspin and G. Hauret 1187 Brillouin scattering in $(\text{NH}_4)_2\text{ZnCl}_4$ near the lock-in transition

N. Sato, M. Mori, K. Ichikawa and T. Matsukawa 1191 Resonant photoemission in $\text{Ce}_2\text{Zn}_{17}$ with stable trivalent valence

Hong-Suk Youn, Yong-Geun Kim, Hyung-Gon Kim, Wah-Tek Kim and Sook-Il Kwun 1195 Impurity optical absorption of SbSI:Ni single crystals

J. C. Hansen, J. A. Benson, M. K. Wagner and J. G. Tobin 1197 The electronic structure of 2×1 -Au(1 1 0)

S. Pal, S. D. Pandey and P. Chand 1203 Electrical studies in some alkali titanates

1207 Author Index Nos 1-12

i Calendar of Solid State Events

A cumulative Author Index appears in Numbers 4, 8 and 12 of each Volume

